

## **URANIUM AND ACCOMPANYING MINERALIZATION IN SEDIMENTARY ROCKS OF THE VOLYN-PODILSKY ELISION BASIN, UKRAINE**

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Upper Rifean talus and slopewash deposits contain the following types of uranium mineralization: 1) clastic uranium and thorium (basement rock accessory detritus minerals, - monazite, zircon, xenotime, cirkolite, -enriched separate interlayers within sandstone strata during the sedimentogene stage); 2) sedimentogene and diagenetic ( sorption of U on clay minerals, Fe-hydroxides, leucoxene); 3) katagenetic (sinter, nodular, and pellicular coffinite associated with pyrite); 4) low temperature hydrothermal (coffinite-nasturan-bitumen mineralization with fluorite, barite, and polymetal in basement and cover Rifean-Vend sedimentary rocks). The age determinations indicated an evident rejuvenation of U mineralization in the row of red mudstone - green mudstone (reduced by catagenic processes) by 540 and 450±20 million years, respectively. A study of the isotope content, gas-liquid inclusions temperature, and complex of ore-formation elements and bitumen features of the 4th mineralization allow to establish a formation of ore as low-temperature process with meteoric water predomination in the hydrothermal system and hydrocarbon-chloride composition of ore-formation solution. On the base of the above, some rich ancient (Rifean) uranium mineralization in the basement could be considered as a source of U for cover mineralization of different ages under the conditions of the Rifean-Vend unconformity surface formation.